

WITHIN OUR BORDERS

VOL. 1

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No. 10

D. P. W. Snowplows Keep Roads Open

**Hundreds of Communities Throughout Alberta Depend
On Hard-working Crews and Their
Huge Equipment**

Keeping the 4,688 miles of highway at present under its jurisdiction clear of snowdrifts is one of the big winter tasks of the Department of Public Works. Forty-eight snowplows, based at strategic points throughout the Province's 10 districts, work on a full-time basis from November until May.

The Province has three general classes of roads, main highways, secondary highways and district roads. Of these only the first two are the responsibility of the Department as far as snow removal is concerned. Municipalities maintain their district roads, civic authorities handle the urban centres and in certain districts, such as the oilfields and lumbering areas, the companies developing the district frequently handle a large part of the maintenance and snow-removal work.

February, March Are Worst

The Public Works department commences snow removal and de-icing operations during November, continues through the winter months, and usually winds up operations in April or early May. February and March are the months of heaviest snowfall and greatest activity for the Department along this line.

Each road district is provided with snow-removal equipment adequate to handle the normal snowfall and in case of emergency in any particular area equipment from adjoining districts is pooled to cope with the situation. Experienced crews are ready to take the plows into action at a moment's notice.

Plows operated by the Department are of varying size and type. Seven are vehicles specially constructed for snow-removal work and the remainder are temporary units consisting of plow blades fitted to trucks and graders normally used for highway construction and maintenance.

The special vehicles are rotary-type machines known as Snogos. Used in areas where heavy drifting occurs, these plows cut through the drifts and

disperse the snow by blowing it clear of the highway. Most frequently seen along Provincial highways, are the truck-mounted units which work rapidly and efficiently in areas where the drift or dead fall snow is less than four feet deep.

Powerful Equipment

The larger trucks are powered by 150 horsepower diesel engines and have four-wheel-drive which, along with some five tons of ballast, give the units maximum traction and stability under adverse conditions. The actual plow fittings consist of a vee-blade mounted on the front and a wing-blade on the right side. Both are hydraulically controlled from the cab of the truck. The crew of such a plow is usually two men; one to drive and one to operate the controls which raise and lower the blades.

Depending on the depth of the snow, plows of this type operate at speeds ranging from three to 30 miles per hour. The usual method of clearing a heavily-blocked road is to make an initial cut down the centre of the road then double back along each side to widen the cleared portion. With the vee-blade cutting a swath eight feet wide and the wing clearing a further seven feet, the plow makes a cut 15 feet wide on the initial run. In most cases the roadway and shoulders are clear after the second run. Operating in average snow conditions a truck-plow can clear up to 90 miles in a day. Where deep snow and heavy drifting necessitates use of a Snogo the distance covered in one day may be not more than a few miles.

Although Alberta is rarely subjected to the deep, wet snowfalls common in eastern Canada the open prairies along the Saskatchewan-Alberta border and in the southern part of the Province allow heavy drifting which so effectually blocks the highways that snow-removal crews have a full-time job on their hands.

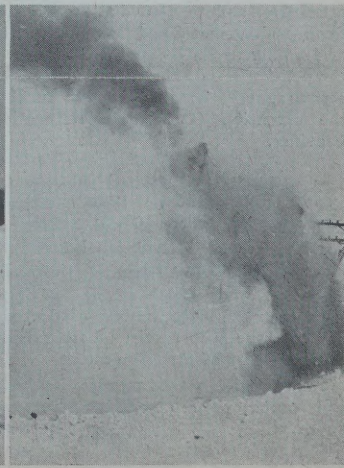
The fact that main and secondary highways are open for traffic all winter long is evidence of the importance these men attach to their work and the speed and skill with which they tackle it. * * *



Momentum is gathered.



Travelling at from three to 30 miles m.p.h. the drifts are hit square.



The road is cleared.

SPEECH FROM THE THRONE

(Here is the text of the Speech from the Throne as read by Hon. J. C. Bowen, Lieutenant-Governor, at the opening of the present session of the Alberta Legislature. Although read by the Lieutenant-Governor, the Speech is prepared by the Premier and contains a forecast of legislation the Government intends to introduce.)

Mr. Speaker and Members of the Legislative Assembly:

I have much pleasure in welcoming you to this First Session of the Eleventh Legislature of the Province of Alberta. I am confident you will discharge your duties in a manner that will justify the trust and confidence placed in you by your electors.

Since the Legislative Assembly last met in session, our Province has suffered the loss of an able Minister of the Crown in the person of the late William Allen Fallow, who served the people of Alberta faithfully as Minister of Public Works from September, 1935, until his death shortly before the dissolution of the Tenth Legislature. On behalf of all assembled I wish to pay tribute to his memory.

In contrast to the distressing conditions prevailing in many parts of the world, our Province has enjoyed a year of economic progress and general well-being marked by unprecedented development of our natural resources with beneficial results to our people and to the whole of Canada.

The policies of my Government, designed to encourage the orderly development of our resources through individual enterprise, while preventing monopoly control and ensuring the public a fair share of the returns from such development, have proven their effectiveness and will be continued and extended as the best interests of our people require.

Alberta has attained international recognition as one of the major oil-producing areas of the continent. My Government is pleased to report that increased revenues from the development of our resources will make possible improved and expanded essential public services and a greater measure of financial assistance to Municipalities, without the imposition of any new forms of taxation.

* * *

A Royal Commission has been appointed to determine the extent of Alberta's natural gas reserves and the future requirements of our Province in relation to proposals for the export of surplus gas. It is hoped the Commission's report will be available for the consideration of the Assembly during the present session.

A competent forestry engineer is being employed to make a complete survey of the forested areas of the Province and to advise on all matters pertaining to forest conservation and administration.

In co-operation with the Eastern Rockies Forest Conservation Board, my Government will continue its program of forest conservation to safeguard the future of our lumber industry and to ensure a lasting water supply for the Prairie Provinces. In order that the available river waters of our Province may be utilized for the stabilization of Agriculture and for the development of power, my Government will continue to press for, and financially assist, the extension of irrigation and power projects.

* * *

To further aid in the stabilization of our basic industry you will be asked to approve amendments to The Agricultural Societies Act, providing for a new scale of assistance to, and a clarification of, the services rendered by Agricultural Societies organized within the Province.

Further aid will be extended to Municipalities for the erection of seed grain cleaners to intensify the control of noxious weeds. Amendments will be proposed to The Live Stock Diseases Act to provide for the establishment of Bovine Brucellosis Restricted Areas to aid in the control of this disease which is causing serious losses to the live stock industry.

Steps will be taken to initiate a program of rural tree planting to assist farmers in water conservation and the prevention of soil erosion.

To further encourage individual efforts to make rural life more attractive, and to give due recognition to farmers who, through intelligent farm management and community service, contribute to the advancement of farming as an occupation. It is proposed to initiate an annual Master Farmer competitive program supervised by the Department of Agriculture. Continued active support will be given to rural electrification co-operatives to further the extension of rural electrification wherever feasible throughout the Province.

* * *

In the field of Public Health, you will be asked to appropriate funds for the establishment of three additional full-time health units and one additional travelling mental hygiene clinic, thereby extending disease preventive services to additional areas of the Province.

You will also be asked to approve appropriations for the establishment and operation of a branch of the Provincial Laboratory at the Central Alberta Sanatorium to meet the increased needs for Public Health laboratory services and to make such services more readily accessible to citizens residing in the southern part of the Province.

Legislation providing for the hospitalization and treatment of children and young people suffering from arthritis will be submitted for your approval.

In order that the most effective scientific measures may be directed toward the prevention of disease and disability and the reduction of deaths among mothers and children, it is proposed to establish a Division of

Maternal and Child Health within the Department of Public Health and Welfare.

To provide more adequately for our aged citizens and blind pensioners and for widowed mothers in need of assistance, you will be asked to approve an increase in the special supplementary allowance paid by the Province to pension recipients and in the amount paid to widows who qualify for Mother's Allowance.

* * *

Legislation will be introduced to implement recommendations contained in the report of the Royal Commission on Taxation tabled during the last session of the Legislature. These measures will relieve Municipalities of all costs in connection with Old Age Pensions. The Province also will assume a substantial share of the costs of child welfare and indigent relief, including hospital and medical care, which costs in respect to such cases in Municipal Districts have been borne by the Municipalities.

Additional financial aid will be extended to Municipalities and Improvement Districts by increased grants for road construction and by the Province assuming the entire costs of the construction and maintenance of Provincial Highways passing through towns and villages.

You will also be asked to approve special grants to Municipalities in lieu of municipal taxation on certain buildings owned by the Provincial Government situated in cities or towns and used exclusively for commercial purposes.

A Professional Assessors' Branch will be established in the Department of Municipal Affairs to aid Municipal Councils in conducting assessments in towns, villages and hamlets. The services of this branch also will be available to all cities for purposes of consultation and advice in matters pertaining to assessments.

* * *

In the field of education, you will be asked to approve increased grants for the operation of schools as recommended by the Royal Commission on Taxation.

My Government will continue its efforts to alleviate the existing shortage of qualified teachers and to this end a program has been prepared through which co-operative efforts between School Boards and the Department of Education should result in a further increased enrolment in the Faculty of Education.

Steps have been taken to assure the future security of those who devote their lives to the service of teaching by implementing the provisions of The Teachers' Retirement Fund Act.

* * *

My Government attaches much importance to its program designed to provide our Province with an adequate system of public highways and roads. You will be asked to approve substantial expenditures for the continuation of main highway construction and improvement, and in addition substantially increased sums will be recommended for the construction and improvement of district roads and bridges.

Estimates will be submitted for the erection of essential public buildings during the coming year and for further work on projects already under construction, including the Aberhart Memorial Sanatorium, the new School of Agriculture at Fairview, the University Library Building and the enlargement of the University Hospital.

* * *

In the field of industries and labor, my Government will continue its program of industrial expansion and the promotion of harmonious employer-employee relationships. To this end it is proposed to extend the services provided by the Industrial Development Board and the Board of Industrial Relations. Particular attention will be paid to industrial standards, hours of employment, holidays with pay and such other matters as will assure the just rights of both employees and employers while striving at all times to improve industrial efficiency and maintain uninterrupted production in the best interests of all our citizens.

* * *

The program of selective immigration, which during the past year has brought many hundreds of desirable immigrants to Alberta, will be continued during the coming year and closely integrated with the economic and industrial development of our Province. It is planned to expand Alberta's already extensive tourist trade and to establish this business on a year-round basis. Cultural activities throughout the Province will be still further encouraged and grants for libraries and scholarships increased according to need.

To ensure our people the greatest possible measure of control over their own financial resources, my Government will progressively extend its system of Treasury Branches throughout the Province during the coming year.

The Public Accounts for the last fiscal year and detailed estimates of expenditures for all departments of Government will be submitted for your careful consideration.

The report of the Committee appointed by the last Legislature to enquire into matters pertaining to automobile insurance in the Province will be submitted during the session for your consideration and such action as you deem in the public interest.

I leave you now to the business of this session with the prayer that you may be given Divine wisdom and guidance in all your deliberations. * * *



Surveyor decides location of test.



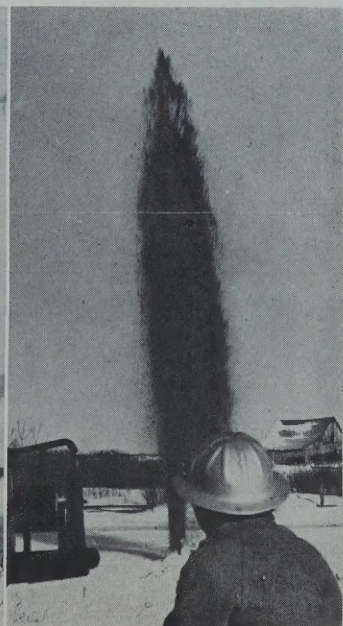
A portable drilling rig goes to work.



"Jug hustlers" lay out the geophones and cables.



"Loaders" place the dynamite charge.



The test hole is shot.

Seismic "Doodlebugs"

Probe Depths to Find New Alberta Oilfields

Alberta is earthquake country. A thousand times a day tremors shake the earth and geysers of mud and rock erupt toward the sky. But it's nothing to get alarmed about because the earthquakes are man-made. The thudding and shaking is all part of the wide search for new oilfields.

Seismograph units, a common sight in many districts, create these miniature earthquakes. Close to 100 parties are gradually covering the entire Province to learn the secrets of formations thousands of feet below the surface of the earth. This work has been responsible to a large degree for the discovery of such important new fields as Leduc, Woodbend and Redwater and it likely will result in the discovery of many more.

Oilmen know the formations most likely to contain oil are dome-shaped pockets or "traps" caused by folding of the underground layers millions of years ago. Knowing this, they have spent many years and fabulous sums of money devising ways to detect these formations. The most successful means is the seismographic survey by which amazingly accurate pictures of subsurface structures can be obtained.

Principle Is Simple

The basic principle of seismology is quite simple. Sound waves travel at varying speeds in different mediums and while some underground layers transmit the waves readily others, particularly impervious rocks, such as limestones, reflect them. By measuring the time required for a sound wave to travel from the surface down to the impervious layer and back it is possible to determine the depth at which it lies and the content of the layers through which the sound passed.

Oil-bearing traps are frequently topped by an impervious layer and oilmen assume that where the layer is dome-shaped a reservoir of oil is likely to be found beneath. By projecting sound waves down to the impervious layer from various points on the surface and recording the reflected waves it is possible to determine whether the layer has the desired shape to merit drilling a test well or "wildcat."

First indication that a seismic crew is going to work in a district occurs when half a dozen strangely-built trucks move into town and up to five times that number of men with a healthy, outdoor look about them start frequenting the cafes, theatres and dance halls. Among these men, known to the industry as "doodlebugs", will be civil and electrical engineers, geologists, geophysicists, "dynamite men", drillers and a host of other specialists, all well paid and willing to pay well for their lodging, food and recreation.

Fascinating Phase

Seismology is one of the most fascinating aspects of the search for oil. No two holes present exactly the same problem and the only routine thing about any operation is the rapid, efficient manner in which the men go about the job.

First, a surveyor and his helper decide where a hole is to be drilled and mark the spots where the geophones are to be placed. Then a truck with a portable drilling rig jack-knifed down over the cab pulls into the ditch beside the road. Machinery whirs and the derrick rises to a vertical position over the tail of the truck. Soon the drillers are busy adding 10-foot lengths of pipe to the drill as the bit eats down into the earth.

In the meantime, the "jug hustlers," as the men who handle the geophones are called, are busy laying out the geophone cable, securing the "jugs" in the proper places and plugging the cable terminals into the seismograph in the recording truck. "Jugs" look like small baking powder tins and contain the delicate mechanism which picks up the reflected sound waves as they reach the surface. This mechanism is extremely sensitive.

When drilling is completed a truck marked "explosives" stops near the hole and two men, the "loader" and his assistant, remove a cylinder about the size of the rolls used to mail calendars. This is the dynamite charge through which the loader places a pencil-shaped detonator cap attached to a length of wire running from the detonator box. The charge is lowered and tamped into the hole and the loader reports, "Ready to shoot!"

Shot Is Set Off

In the recording truck, the recorder makes sure by asking over the microphone, "Ready to shoot?" From the cable and explosives trucks assurance is relayed back over the radio telephone. The recorder flips a switch and a roll of sensitized paper starts moving in the seismograph. "Shoot!" calls the recorder. Everybody stands still and the "shooter" presses the denonator switch. For a second nothing happens; then a muffled explosion is heard, the earth trembles and a column of water, mud and rocks erupts from the hole. The visible action is over.

At the bottom of the hole important things start happening the moment the dynamite explodes. Tremors, or sound waves, speed out in all directions. Some of them travel down through the earth's layers, strike the impervious layer, reflect and start back toward the surface. At the surface the reflected waves strike the "jugs" attached to the cable and the hypersensitive mechanisms send electric impulses racing along to the seismograph. In the seismograph the impulses cause tiny fingers of light to trace patterns on the moving roll of sensitized paper. All this action requires only a matter of seconds.

When shooting is completed the recorder develops the exposed length of paper in the portable darkroom built into the truck. The records obtained during the day are later studied by skilled interpreters who compile detailed maps of the underground formations. These maps are used by company experts who determine where "wildcats" will be drilled as the next step in the search for oil. * * *

"Hi, O.M. Mighty f.b. Q.S.O.! Hope 2C more of U on 20. 73!"

No, it isn't double-talk or a new form of basic English for such a message has a definite meaning for the thousands of "ham" radio operators scattered all over the continent.

These "hams" or radio amateurs, if they wanted to take the time and effort would impart the same sentiments by saying: "Howdy, Old Man (nothing to do with age). Mighty fine business conversation we had. Hope to have more of these chats with you on the 20-meter band. Best regards!"

Of course there are infinite variations to this jargon of the air waves. The O.M. might be a Y.L. (Young Lady) and if she eventually agreed to become his Mrs. (an X.Y.L.) the final figure would automatically be changed from 73 (best regards) to 88 (love and kisses)!

"D.X." Cherished

Amateur radio communication has become more than a hobby with these people; with most of them, it's a consuming obsession and their street-corner conversations are devoted to changes in their transmitters or receivers, modulation control and a highly cherished commodity known as "D.X."

For "D.X." is the mark of achievement where "hams" are concerned—D.X. is "distance". When you're sitting in an attic cubby-hole at half-past two in the A.M. copying dits and dahs from someone in Christchurch, New Zealand; D.X. is what you're getting!

And that's the routine they'll follow. Perhaps they'll make a date to have another conversation in Morse a week or so later. There'll always be something to talk about and if someone else is just as lucky

Radio Ham Q.S.L. Cards Boost Alberta Tourist Attractions



Each of the four designs featured on the Alberta Q.S.L. cards depicts a scene reproduced in four-colors. Above the picture is the operator's call, his name and his address. Accurate reproduction of the Province's natural attractions makes each card distinctive even in the most complete collection.

and manages to turn it into a three-way conversation, so much the better. But in the meantime, they'll confirm their original contact with an exchange of Q.S.L. cards.

Plaster Walls

Amateur radio operators have an aversion to wall paper. Plastered all over walls and ceilings of their radio rooms are colorful postcards. At first glance, they resemble automobile license plates. Each of these cards represents a contact the operator has made from his station. Some of them may be right from Calgary or Edmonton, and some of his prize exhibits from South Africa, Australia or China.

In many cases, a smartly-designed, colorful card is as highly cherished as a plain card from a couple of thousand miles away. Amateur radio operators strive for originality in their Q.S.L. cards, often with real success.

Because American Radio Relay League and other kindred amateur radio groups constitute one of the most democratic world-wide organizations known today, Alberta's hams have become bona fide ambassadors on behalf of their Province. In their conversations with new friends they make good use of fleeting moments to tell their contact in Madrid all about this part of their

Dominion. They're not at all reticent about extolling the virtues of their homeland and they'll be quite sincere in inviting new air-made friends to pay a visit in person.

Last year, the Alberta Travel Bureau, Department of Economic Affairs, recognized the efforts of these kilocycle hobbyists and gave impetus to their ambassadorship in the form of 100 specially prepared Q.S.L. cards donated gratis to each licensed amateur in the Province who asked for them. Distribution of the cards was handled by the Northern Alberta Radio Club, in Edmonton.

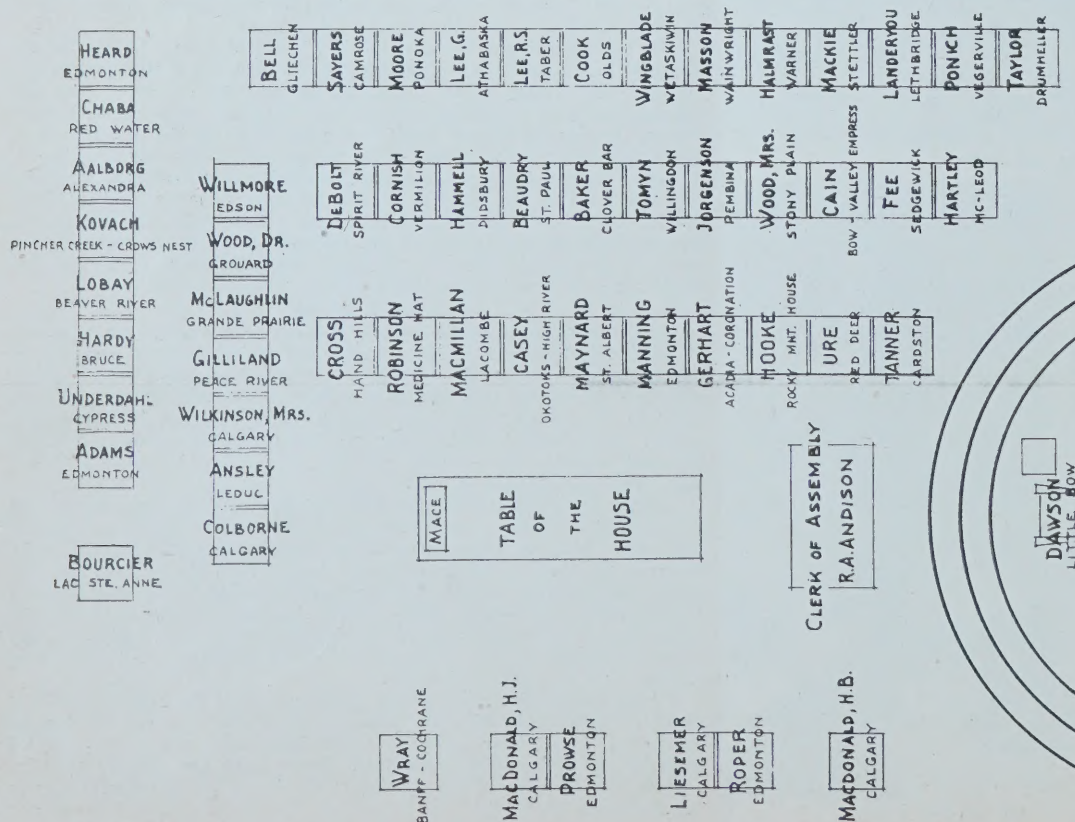
The bright cards stand out in any collection. A choice of four scenic reproductions is available depicting fishing, skiing, riding and wild animals, each one a high-powered "plug" for Alberta. Space is allowed for the ham operator's call letters, name and address and a map of Canada showing the geographic location of Alberta, "Canada's Vacation Playground."

Carries Message

The reverse side of the card more closely resembles a postcard, with space for a written message, preferably in the previously described ham-ese. Included in this side is an invitation to write to the Travel Bureau for free literature on Alberta.

So successful has this co-operative exposition of the Province's attractions been, the Government is renewing the offer this year. Very tangible results have been obtained, in the form of requests for literature and information from individuals contacted only through the magic of short-wave radio.

Their curiosity has been stimulated and their interest in our Province heightened through the efforts of these new ambassadors, Alberta's "hams". ***



At the left is shown the seating plan of Alberta's 11th Legislature. The official opposition in the assembly consists of the six members whose desks are at the lower edge of the plan. The remainder are government seats. The first row of desks immediately above the "Table of the House" are those of the premier and cabinet ministers.

"Within Our Borders" is a publication designed to acquaint the people of the Province with the administration and services of the Alberta Government.

It is believed the many and varied services of the Government will be effective in the degree they are known and used. Any material used is for immediate republication.

Correspondence concerning the publication should be addressed to the Deputy Minister, Department of Economic Affairs, Legislative Buildings, Edmonton.

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